

WHAT IS CLAIMED

1. A relay comprising:

a coil bobbin;

5 a yoke; and

a core penetrating the coil bobbin and connected to the yoke; the core having a transition region with the yoke with a cross-sectional area and a central region surrounded by the coil bobbin with a cross-sectional area, the cross-sectional area in the transition region being greater than the cross-sectional area in the central region of the core.

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2. The relay according to claim 1, wherein the core has an end face opposite the yoke and the cross-sectional area of the core is greater at the end face than in the central region of the core.

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3. The relay according to claim 1, wherein the core is tapered in a region surrounded by the coil bobbin.

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4. The relay according to claim 1, wherein the core is formed from at least two core elements.

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5. The relay according to claim 1, wherein the core is formed from at least two core elements, at least one core element has a non-uniform cross-sectional area, and the core
5 element having a non-uniform cross-sectional area is designed to be substantially insertable into the coil bobbin.

6. The relay according to claim 4, wherein the core elements are designed so as to be substantially without an
10 undercut.

7. The relay according to claim 4, wherein the yoke is integral with one of the core elements.

15 8. The relay according to claim 7, wherein the core element that is integral with the yoke is substantially uniform and rectangular in cross-section.

9. The relay according to claim 8, wherein the core
20 element that is integral with the yoke is insertable into the coil bobbin with the non-uniform core element present in the coil bobbin.

10. The relay according to claim 1, wherein at least two core elements are provided, of which the cross-section widens toward the yoke.

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11. The relay according to claim 1, wherein the end face of the core forms a pole face for the relay.

12. The relay according to claim 11, wherein at least
10 two core elements are provided, of which the cross-section widens toward the pole face.

13. The relay according to claim 4, wherein at least one core element touches the yoke.

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14. The relay according to claim 1, wherein at least one cross-sectional enlargement engages with the coil bobbin.